

ABSTRACT OF THE DISCLOSURE

There is disclosed a receiver which solves such a problem as to strictly realize channel selection filter characteristics in extracting a narrow band signal from a broad band signal by digital signal processing in a conventional direct conversion circuit and which improves an image rejection ratio and which can reduce a load of hardware or processing to realize a channel selection filter for extracting the narrow band signal. Moreover, phase and amplitude errors caused by analog devices are corrected by digital signal processing so that the load of the hardware or processing is reduced and the image rejection ratio can also be improved. In a digital signal processing section, one set or a plurality of sets of an image rejection section for rejecting an image frequency signal included in a received signal, a frequency conversion section for reducing a frequency of the image-rejected signal, and a rate conversion section for performing rate conversion to lower a sampling frequency are continuously connected. A narrow band signal of a desired wave is extracted from a broad band signal whose sampling frequency is lowered, and an offset provided at a local oscillator at the time of quadrature detection is removed in the receiver. Moreover, in the digital signal processing section, a phase deviation correction processing section detects and corrects a phase deviation from an inputted digital signal of in-phase and quadrature components,

an amplitude deviation correction processing section detects and corrects an amplitude deviation, and the image rejection section (complex frequency conversion section) rejects the image frequency signal included in the received signal in the receiver.

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